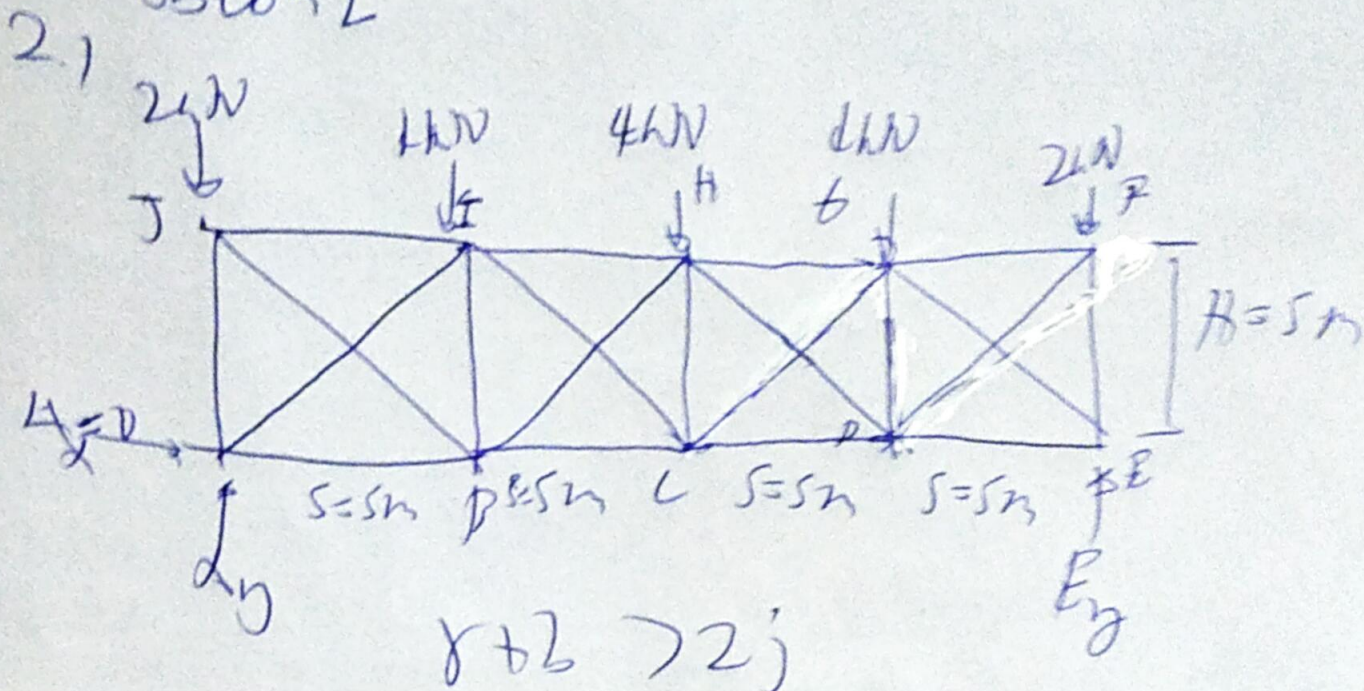


Problem 2



$$r + b > 2j$$

$$r = 3, b = 20, j = 10$$

$$3 + 20 > 2(10)$$

∴ statically indeterminate
3rd degree

$$\sum M_A = 0 \quad (+\downarrow)$$

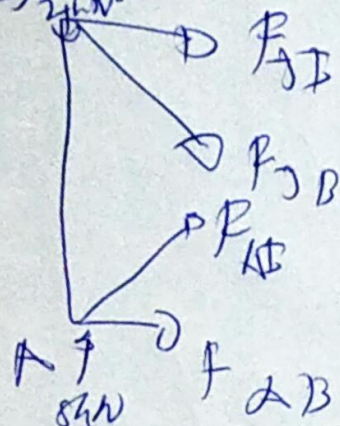
$$5(4) + 10(4) + 15(4) + 20(4) - 20(R_E) = 0$$

$$R_E = 8kN$$

$$\sum R_y = 0 \Rightarrow A_y = 8kN$$

2.2

1.55 m for the horizontal force and 0.8 m for the vertical force



$$F_{JB} + F_{AB} = 0$$

$$\sum F_y = 0:$$

$$- F_{JB} \frac{5}{5\sqrt{5}} + F_{AB} \frac{5}{5\sqrt{5}} - 2.4 \text{ kN} = 0$$

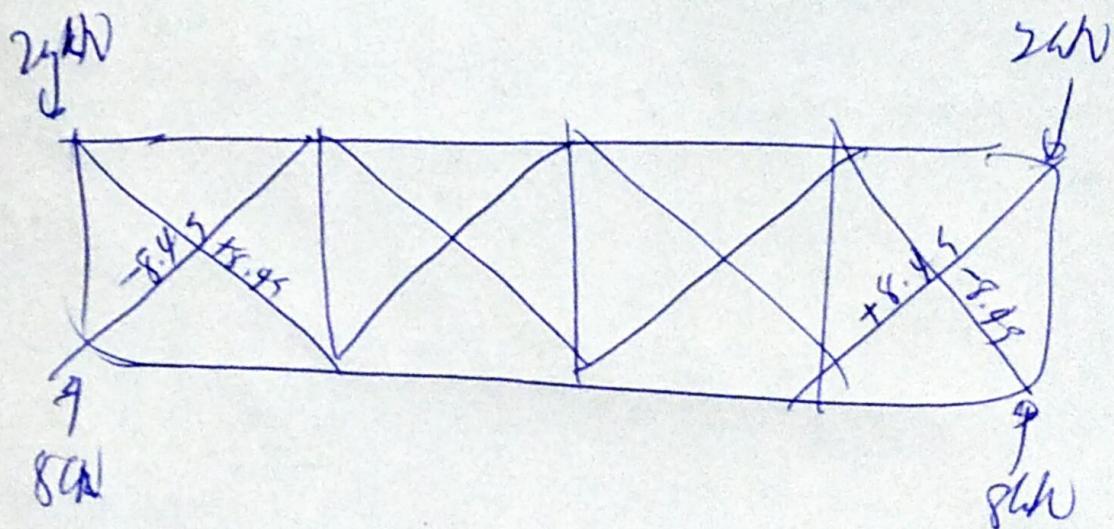
$$2 F_{AB} \frac{5}{5\sqrt{5}} = 2.4 \text{ kN}$$

$$F_{AB} = 0.45 \text{ kN (T)} \Rightarrow F_{JB} = 0.45 \text{ kN (C)}$$

$$- F_{JB} \frac{5}{5\sqrt{5}} + F_{AB} \frac{5}{5\sqrt{5}} - 2.4 \text{ kN} + 2.4 \text{ kN} = 0$$

$$F_{JB} \frac{5}{5\sqrt{5}} = 6 \text{ kN}$$

$$F_{JB} = 8.45 \text{ kN (T)} \Rightarrow F_{AB} = 8.45 \text{ kN (C)}$$



2.3

$$\Delta \alpha = 0$$

$$A_y = 8 \text{ kN}$$

$$\cancel{B_y} = 8 \text{ kN}$$